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**Climate Change, Instability and a Full Spectrum Approach to  
Conflict Prevention in Africa**

**by**

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**A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.**

**The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.**

**Signature: \_\_\_\_\_**

**23 October 2009**

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## **Abstract**

### *Climate Change, Instability and a Full Spectrum Approach to Conflict Prevention in Africa*

Climate change is an emerging threat to the national security of the United States. It has the potential to enhance the underlying causes of failed and failing states in Africa resulting in an increased frequency of crisis response operations, taxing the armed forces already engaged in conflicts around the globe. If climate change is the catalyst of crises to come, Africa Command (AFRICOM) must employ innovative and proactive cooperative theater security plans and full spectrum stability operations to meet the challenges. This paper will first describe the threat posed by climate change and its implications for sub-Saharan Africa and U.S. national security. The paper will present an examination of the historical evidence for climate change as a conflict enabler and an analysis of the potentially destabilizing impact climate change poses for Nigeria. Recommendations for how AFRICOM should engage already fragile African nations, such as Nigeria, which are vulnerable to the affects of climate change, will be offered. Achieving increased capacity for Nigeria in order to overcome the destabilizing affects of global climate change is the goal. An integrated interagency, intergovernmental, and non-governmental organizational approach, coupled with an African Union led full spectrum stabilization, stability, transition and reconstruction (SSTR) concept, will be examined as the recommended course of action for the combatant commander to follow.

## INTRODUCTION

*We never have 100 percent certainty. We never have it. If you wait until you have 100 percent certainty, something bad is going to happen on the battlefield.*

*– General Gordon R. Sullivan, USA (Ret.)<sup>1</sup>*

*By weather I mean the interaction of natural forces; the effects of winter's cold and the summer's heat and the conduct of military operations in accordance with the seasons.*

*- Sun Tzu<sup>2</sup>*

Global climate change poses a serious threat to U.S. national security with the potential to exacerbate challenges that struggling states already face in access to water, arable land, economic stability, the spread of disease, and migration to name just a few. With the stability of nations of prime interest to U.S. national security, as postulated by the 2008 National Defense Strategy, there is no room for delay in preparing to face the challenges ahead.<sup>3</sup> The 2007 Intergovernmental Panel on Climate Change (IPCC) says, “Africa is one of the most vulnerable continents to climate change” and that it “needs to focus on increasing adaptive capacity.”<sup>4</sup> The 2006 National Security Strategy states that Africa is of high geostrategic importance and ties its security to that of the United States.<sup>5</sup> Though the pace and full impact of global climate change is unpredictable, the threat it poses is a significant reality.

Climate change has the potential to enhance the underlying causes of failed and failing states in Africa. As a result, this will increase the frequency of crisis response operations, tax the armed forces, and threaten the national security of the United States. If climate change is the catalyst of crises to come, Africa Command (AFRICOM) must employ innovative and proactive cooperative theater security plans and full spectrum stability operations to meet the challenges. This must be done in close concert with fragile African host nations in an effort to increase adaptive capacity, promote stability, and avert conflict.

This paper will focus on the challenge climate change poses for sub-Saharan Africa and the states along the Gulf of Guinea, with specific emphasis on Nigeria. It will examine the anticipated threat posed by climate change in the region and suggest some areas of focus and solutions for the combatant commander as they relate to Nigeria and its neighboring states.

## **BACKGROUND**

Climate change is a naturally occurring event on our planet and is occurring today.<sup>6</sup> One only has to look at the evidence of the diminishing arctic ice cap, or the rise in global temperature by 0.74°C from 1905 to 2005, to find the physical evidence.<sup>7</sup> Scientific theories based on evidence and modeling suggest various scenarios for how climate change will play out, its impact, the timeline and changes it may cause.<sup>8</sup> The Intergovernmental Panel on Climate Change (IPCC) Working Group I 2007 report asserts that “warming of the climate system is unequivocal” and that the main cause of this is “very likely due to the observed increase in anthropogenic green house gas concentrations.”<sup>9</sup> This increase in temperature may precipitate various natural disasters in the form of rising sea levels, drought, desert expansion, lack of water, reduced agricultural capacity, and increased outbreaks of disease.<sup>10</sup> Additional consequences may include disruption of ocean cycles, increased severe storm activity and floods.<sup>11</sup> The scope of the problem can be seen in the many issues humanity has faced in Africa over the last four decades, many ongoing today; crises in Sudan’s Darfur region precipitated in part by migration in search of water and arable land, dwindling water resources in Rwanda, Somalia, Algeria and Kenya, and expanding desertification throughout sub-Saharan Africa.<sup>12</sup>

These calamities have the potential to produce disorder; fragile states becoming failed states, failed states imploding into chaos, economic losses from reduced exports and increased costs stemming from stability operations and infrastructure repair. Additionally, there exists the potential for the increased spread of disease as vector, and corresponding viral ranges, expand.<sup>13</sup> Failed states can generate dissent as the poor lose any hope of rising above their situation, which in turn can foster extremist ideology and terrorism.<sup>14</sup> They can, in turn, provide terrorist groups safe haven, training grounds, and sources of money from illicit trade activities to finance their operations.<sup>15</sup> Devastating natural disasters can result in the land losing its carrying capacity, causing migration on a massive scale, and resource competition as people move into new regions and thus lead to conflict.<sup>16</sup> In short, calamities of this nature can encourage extremism and lead to wars over resources and migration.<sup>17</sup>

There is much historical evidence for conflict linked to natural disasters, migration and resource control spurred on by climate change. A study by David Zhang, Peter Brecke, Harry Lee, Yuan-Qing He and Jane Zhang shows that as far back as 1400, conflict in Asia can be linked to periods of climate change in the form of cooling temperatures which resulted in food scarcity and caused wars to break out as clans fought for limited resources.<sup>18</sup> They go on to note that global warming could also create similar impacts on resources.<sup>19</sup> In modern times disputes over natural resources have erupted into conflict in Somalia, Ethiopia and Sudan.<sup>20</sup> A severe cyclone struck Bangladesh in 1991, creating a large-scale disaster that overcame the country's capacity to respond, and resulted in a substantial humanitarian effort by the U.S. under Operation SEA ANGEL.<sup>21</sup> Natural disasters could easily exacerbate socio-economic issues and lead to conflict in fragile states as warlord bands spring up and overwhelm any remaining semblance of government control in a region. In the past resource



issues have been tied to internal strife that has migrated to the international stage, as has occurred in Rwanda (1994), Darfur and Chad (at present), and Nigeria (1974).<sup>22</sup> Conflict driven by a changing climate and natural disaster is not new; it's been a part of the human story for centuries.

Climate change will have the highest impact on developing nations, and evidence from the IPCC's 2007 Fourth Assessment suggests that among the most vulnerable will be those on the continent of Africa.<sup>23</sup> Much of northern Africa is already suffering from lack of water and the conflict raging in Darfur is related to access to arable land for agriculture.<sup>24</sup> There are several developing nations in Africa that are of national interest to the United States. In fact, the National Security Strategy 2006 states: "Africa holds growing geostrategic importance...linked to the United States by history, culture, commerce and strategic significance," and that "the United States recognizes that our security depends upon partnering with Africans to strengthen fragile and failing states and bring ungoverned areas under the control of effective democracies."<sup>25</sup>

The newly established AFRICOM is responsible for the U.S. military mission on the African continent, excluding Egypt, and is charged with promoting stability in the Area of Responsibility (AOR).<sup>26</sup> Climate change has the potential to increase the already mounting intensity of environmental, resource and humanitarian issues for regions throughout the continent. Conflict breaks out often, and is usually closely tied with a precursor of human suffering. One of these fragile and vital states is Nigeria.

## DISCUSSION / ANALYSIS

What are the operational considerations in Nigeria for the AFRICOM Commander arising from climate change? Africa is a large continent with many variables in play: religion, ethnicity, competing political groups, and geography. The IPCC's Fourth Assessment states that in Africa, with respect to climate change, ~~the~~ most vulnerable nations...were those situated in sub-Saharan Africa and those that have recently experienced conflict.<sup>27</sup> As such, the operational factor of space, in terms of both the physical and human terrain, is a key consideration for the geographic combatant commander as the sheer vastness of Africa could quickly exceed his or her available resources. Operations must be focused on key states so as not to be overwhelmed by geography, without losing sight of the regional and global connections of climate change. Information operations and strategic communications must be employed to cross this space effectively. The key to accessing Nigeria will be to reach the people; gaining an understanding of their government's character, their culture and socio-economic challenges, and barriers to progress. Thomas Barnett suggests that the ~~enemy~~ is the condition of disconnectedness.<sup>28</sup> Climate change will exacerbate this condition. Connecting Nigeria more firmly to regional and global partners will serve to cross this human space more effectively and with greater impact.

AFRICOM operates under a resource-limited construct due to ongoing operations around the globe.<sup>29</sup> The factor of force is therefore a challenging, but key consideration. Numbers of personnel, while important, are not as critical as the skills and expertise those personnel bring.<sup>30</sup> Pivotal to maximizing the effectiveness of AFRICOM's country team is the logistics and command organization and how it incorporates other United States Government (USG) agencies, intergovernmental (IGO) and non-governmental organizations

(NGO).<sup>31</sup> Cohesion of international and regional partnerships is critical, as well as the quality of command and control which should foster unity of effort. To ensure economy of force, particular vulnerabilities to climate change and their destabilizing affects must be identified for a given state or region. A high level of coordination across organizational lines must then be achieved to build the state's capacity to respond. Sub-Saharan Africa encompasses 11 of the top 20 states on *The Failed States Index*, including Nigeria, which ranked 15 and is categorized as —in danger” of failing.<sup>32</sup> These states possess questionable capacity to deal with the affects of climate change. If left unchecked, climate change could be a catalyzing event that leads to resource conflict, delegitimizes the government, and creates space for the growth of militant groups. An overwhelming preponderance of events such as these could ultimately lead to state failure in Nigeria. So why should we care?

**Nigeria, the Physical and Human Terrain.** African oil imports to the U.S. are now equal to that of Middle Eastern imports, and Nigeria is the largest African supplier.<sup>33</sup> Nigeria is the most populous African country with 250 ethnic groups, predominantly Christian and Muslim, and 70% of its people fall below the poverty line.<sup>34</sup> Nigeria's economy runs primarily on agrarian and petro-chemical industries.<sup>35</sup> The country suffers from a history of ethnic strife, corruption, mismanagement, weak governance, poor infrastructure, and a host of health, environmental and criminal issues.<sup>36</sup> Militant groups abound in Nigeria, especially in the Niger Delta region where the oil industry resides.<sup>37</sup> Armed conflict has been a consistent problem since the 1960's with groups like Niger Delta Republic (NDR) in 1966, Movement for the Survival of the Ogoni People (MOSOP) uprising from 1990-93, the Ijaw Youth Council (IYC) from 1998-99, and continues today with several, now radicalized, ethnic militias.<sup>38</sup> These groups continue to encourage violent resistance against the Nigerian

government in an attempt to address the people's dissent, much of which is centered on political access, environmental degradation, and the desire to gain more economic returns from the oil industry.<sup>39</sup> When one considers the already fragile environment of Nigeria and its contribution to regional conflict, it is not hard to see how the exacerbating affects of further climate change, in the form of expanding desertification, shifting precipitation patterns, drought, water scarcity and subsequent affects on agriculture, will make the situation worse. Nigeria's neighbors are facing similar internal issues with the same foreboding prospects when combined with climate change.<sup>40</sup> Trouble in one state could easily spill over into Nigeria, as it already has from Sudan into Chad, and threaten the stability of Nigeria.<sup>41</sup> Global climate change threatens to destabilize the entire sub-Saharan region with severe consequences for U.S. national security. At the heart of the issue for Nigeria will be its government's capacity to respond.

A holistic, full spectrum approach to security and stability operations is needed to address the scope of the problem in Nigeria. This is where AFRICOM, in concert with USG agencies, the African Union (AU), and other IGOs and NGOs, needs to engage to help Nigeria build the required adaptive capacity necessary to address climate change and head off potential conflict and state failure. Stabilizing efforts in Nigeria may have a positive influence on neighboring states if cooperative strategies are employed throughout the region.

**Balancing Space and Force.** Force strength and capacity is the confounding problem for AFRICOM. With Operations IRAQI FREEDOM (OIF) and ENDURING FREEDOM (OEF) still ongoing, addressing stability and capacity building operations in Africa becomes difficult to properly resource. However, if building Nigeria's capacity to cope with climate change will ultimately allow it to handle its own crises without suffering

any destabilizing affects, then the effort demands America's utmost attention. This ties preventing state failure and conflict prevention together. It makes conflict prevention essential to winning the current war.<sup>42</sup> The fewer large-scale operations the U.S. is required to engage in will allow America to continue the focus on the current fight. Therefore, stability and security operations must not fall to the bottom of the priority list as General Ward, Commander of AFRICOM, suggests is often the case.<sup>43</sup>

The situation in Nigeria is complex and requires a balanced application of all the elements of national power to build capacity, enhance security, and encourage competent governance.<sup>44</sup> AFRICOM, working in concert with a number of USG agencies, regional and international agencies is trying to do just that.<sup>45</sup> Despite this, barriers to unity of effort still persist. According to the February 2009 Government Accountability Office (GAO) Report concerning AFRICOM, the command has made great efforts to integrate personnel from various USG agencies into the command but has only been able to fill 13 out of 52 non-Department of Defense (DOD) positions on its staff and is currently only 71% manned.<sup>46</sup> Additionally, the GAO report states that many NGOs and African partners have concerns about AFRICOM's mission.<sup>47</sup> The gap in interagency personnel makes it difficult to overcome these concerns, as it is the military nature of the command that fosters fears.<sup>48</sup> The first critical step in enabling the Combatant Commander to build trust and confidence in Nigeria and address its adaptive capacity in the face of future climate change is to reassess the prioritization of AFRICOM's resourcing by filling these manning shortfalls, especially in the non-DOD positions. An interagency (IA) approach with the Department of State (DOS) firmly in the lead, supported by other USG agencies and DOD will foster success. As General Ward has made clear, many of the issues confronting African nations require

solutions that —all outside the purview of DOD or that overlap multiple U.S. agencies.”<sup>49</sup>

Climate change is a catalyst for de-stabilization and does not alter this assertion; it simply further emphasizes the need for a cohesive interagency approach.

In addition to interagency, a high degree of IGO and NGO integration is required to bring an effective U.S. effort to bear. Subject matter expertise in the form of knowledge, technology and adaptive processes are the greatest capacity builders the U.S. military can bring to the mission.<sup>50</sup> However, DOD must remain in the background allowing the Nigerian government to be at the fore. This effort is very much about the Nigerian government’s legitimacy with its people. History has shown in El Salvador in the 1980’s and the Philippines today, that a small, talented, high impact force properly employed, can do much to build the trust and confidence of a people in those who are supposed to govern and protect them.<sup>51</sup> Likewise, it can do a great deal to professionalize the various indigenous service agencies, military and police forces without creating a large U.S. footprint.<sup>52</sup> The host nation capacity is a vital element of the factor of force. It will ultimately drive what resources and subject matter experts need to be employed and could change from place to place. If climate change is a threat multiplier, as suggested by the Center for Naval Analysis,<sup>53</sup> AFRICOM needs force multipliers in the form of functional partnerships with IGOs, NGOs and within the USG to effectively engage in Nigeria.

Addressing climate change in Nigeria requires getting at the root causes of turmoil in the country that climate change will tend to aggravate further. Nigeria’s massive poverty, poor telecommunications, electrical power and transportation infrastructure, friction between the oil industry and the populace, conflict between the government and various civil action and militant groups, water supply and agricultural industry are all vulnerable to the

exacerbating affects of climate change. These issues require an interagency approach. Representatives from DOS, the United States Agency for International Development (USAID), Department of Treasury, the Department of Commerce, the Director for National Intelligence, and the Department of Homeland Security have already been integrated into AFRICOM's staff.<sup>54</sup> Additional USG representatives suggested for integration into AFRICOM include: the Department of Justice (DOJ), the Drug Enforcement Agency (DEA), and the Federal Bureau of Investigation (FBI). These agencies can aid the government of Nigeria by fostering good governance, security, and the rule of law. To specifically address environmental issues, representatives from the Environmental Protection Agency (EPA), National Oceanographic and Atmospheric Administration (NOAA), and the Department of Agriculture should be included on the AFRICOM staff.<sup>55</sup> The DOS also has 12 environmental regional hubs around the world. Three are located in Africa, with the Accra, Ghana hub serving Nigeria and a host of nations throughout West and Central Africa.<sup>56</sup> This agency should be liaised with as well.

A functional multinational effort is essential to success. The AU would be the most vital partner in this effort to help build capacity and encourage stability in Nigeria. There is a very strong desire by African nations to handle their own problems.<sup>57</sup> However, they acknowledge that assistance is needed to carry efforts through and build capacity simultaneously.<sup>58</sup> The AU has many relevant agencies within its Specialized Technical Committees. Specific to climate change issues, the Committee on Industry, Science and Technology, Energy, Natural Resources and Environment should be engaged to foster cooperative efforts.<sup>59</sup> A liaison officer (LNO) from AFRICOM should be provided for the AU to facilitate communications and understanding. The Economic Community of West

African States (ECOWAS) is a sub-Saharan agency that maintains an indigenous regional peacekeeping capability supported by countries in the region, to include Nigeria.<sup>60</sup>

AFRICOM should work to integrate with this organization using LNOs to gain insight into its operations. The North Atlantic Treaty Organization's (NATO) Science for Peace and Security Program and the Committee on the Challenges of Modern Society, as well as the United Nations (UN) Environment Program regional office for Africa and the Office for the Coordination of Humanitarian Affairs are other organizations that should be engaged.<sup>61</sup>

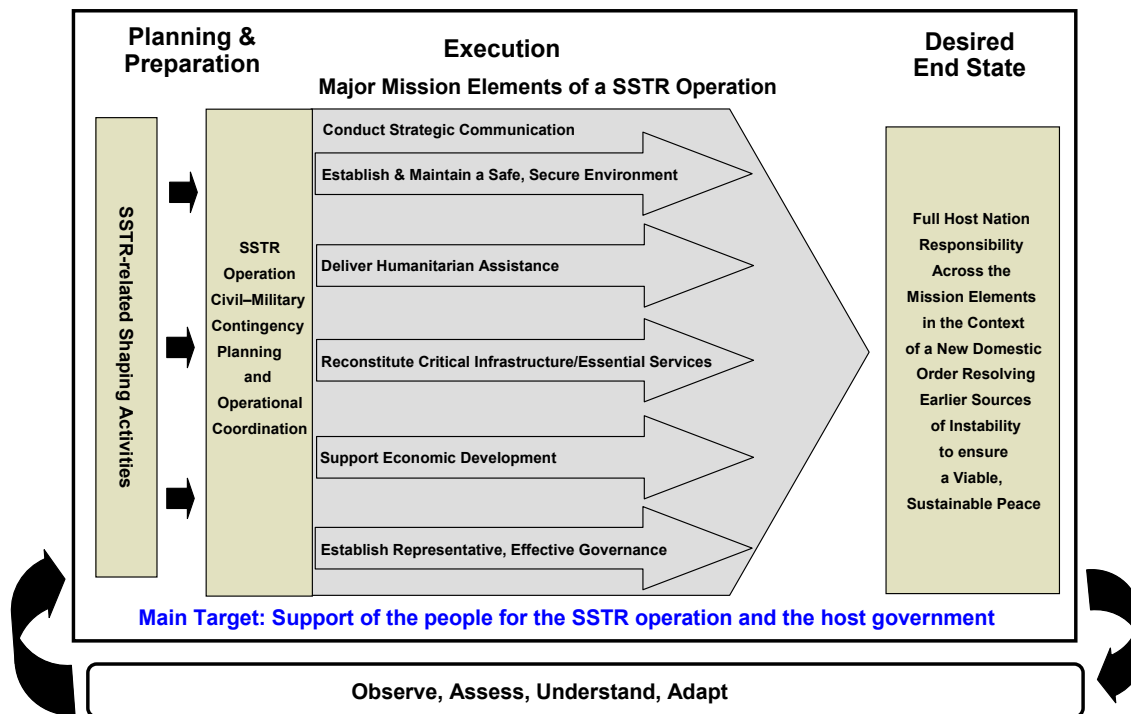
The effort of these relationship-building operations is to foster better communication, encourage advisory assistance and direct support where appropriate. Information sharing is a critical requirement to gain understanding and unity of effort across all agencies so that the right resources can be applied in the proper manner.

Alan Doss, the U.N. secretary-general's special representative to the Democratic Republic of the Congo has stated that —~~a~~iled states are often easier to deal with than failing states,” with failing states ~~—~~you'll have all the trappings of power and sovereignty and they don't need to take your advice.”<sup>62</sup> As true as this may be, it should also be considered that once a state fails it will take far more effort to conduct combat or peacekeeping operations followed by stabilization, security, transition and reconstruction (SSTR) operations. Not to mention the cost of dealing with the economic impact, if the nation in question is vital to our national security, like Nigeria is from an energy standpoint. It will take more resources, troops and time, and will result in more casualties on both sides of the operation to address the problem after the fact. It is far more cost effective to engage in stabilization and capacity building activities to prevent conflict, than to wait until a failing nation has no other choice but to listen.



**A Full-Spectrum Approach.** Based on their 2005 OIF experience employing the SSTR concept while operating in Baghdad, Major General Peter Chiarelli and Major Patrick Michaelis argue that a full spectrum approach to operations is required, acting simultaneously along all five lines of operation (LOO) vice the traditional sequential phased approach.<sup>63</sup> The LOOs they were using were related to a combat environment but the application is just as feasible in a stability and security promoting operation or in response to

63. Michaelis and Chiarelli, "Full Spectrum Operations," 64.



**Figure 1. SSTR Concept** (reprinted from U.S. Joint Forces Command, *Military Support to Stabilization, Security, Transition, and Reconstruction Operations Joint Operating Concept* [Suffolk, VA: U.S. Joint Forces Command/J-9, 2006], available at <https://www.dtic.mil/futurejointwarfare/> [accessed 26 Sep 09].)

The process is designed to allow accomplishment of operational objectives within a complex problem environment with many competing factors, promoting unity of effort while maintaining adaptability.<sup>65</sup> Applying Boyd's "observe-orient-decide-act (OODA) loop" to the variation in Figure 1, allows us to visualize a very important point with respect to climate

change and Thomas Barnett's "enemy as a condition" theory.<sup>66</sup> An important feedback from "action" ("adapt" in Fig 1.) to "observe" is interaction with the environment.<sup>67</sup> This is a key point because it is the environmental effects of global climate change on Nigeria and its people that will shape our operations. Their disconnectedness and the stresses they exist under now will be exacerbated by climate change. It will shape their choices based on the government's capacity to respond in an effective manner. Climate change will have an impact along all five LOOs simultaneously and will require an ability to adapt parallel to that of combat operations. Historically this has been seen in responding to natural disasters during Operation SEA ANGEL in 1991, Operation UNIFIED ASSISTANCE in 2004, and Hurricane Katrina in 2005.<sup>68</sup>

**Addressing Command and Control.** The combatant commander needs to create functional lines of command and control by integrating on a full time basis with all pertinent stakeholders. This can best be done with heavy emphasis on the Joint Interagency Coordinating Group (JIACG) concept. This will form a core of IA, IGO and NGO representation, organic to AFRICOM, which will establish continuity and build trust and understanding in conjunction with the country team.<sup>69</sup> The JIACG will facilitate unity of effort, allow for timely planning, and is central to sustaining the effort.<sup>70</sup>

Connecting the JIACG to a region or state will be the Civil-Military Operations Center (CMOC). This entity will allow AFRICOM to tailor its operations as appropriate for the state.<sup>71</sup> This is critical as each region or state may have differing issues but the same related stressor of climate change. With AFRICOM in a supporting role of various organizations, the CMOC will help connect the lines of support required for logistics, enabling organizations to function in austere environments under various environmental

conditions. The U.S. military can also provide training, technology and expertise that other organizations may not be capable of. With open lines of communication and information-sharing enabled and encouraged, the military can be an effective support provider to an IA or IGO. It can coordinate work along parallel LOOs with an NGO that benefits the NGO's operations without compromising their relationship with the host nation or its people.

Building capacity will require a long-term commitment and measures of effectiveness (MOE) will take a long time to materialize. MOEs will be: did an improvement in security and stability result from our team's efforts?<sup>72</sup> These will only be measurable when a change can be assessed. Exercises may provide some MOEs, certainly actual crises will.<sup>73</sup> Another stability MOE will be evident based on how connected the people of Nigeria become to their government, neighboring states, greater Africa and the world.<sup>74</sup> Have we impacted what Thomas Barnett calls the "four global flows; people, energy, investments, and security,"<sup>75</sup> in a manner that has promoted balance and progress? An open, innovative, adaptive and fully integrated C<sup>2</sup> structure will facilitate a sustainable unified effort, which will build trust, confidence and lasting change.

**Why Bother?** The naysayers assert that climate change will happen slowly and pose little threat to the U.S., arguing that America has sufficient resources and a strong enough economy to mitigate the issues.<sup>76</sup> While the pace of climate change may be slow or fast, it will affect us either way. From an environmental standpoint what affects one region of the globe affects others. This has been seen in numerous El Niño Southern Oscillation (ENSO) events over the years in various parts of the world, to include Africa and Southeast Asia, that have generated increased precipitation in one region while causing drought in another.<sup>77</sup>

Climate change will affect our resources and our economy since both are tied to the health of the planet and the health of the global economy. One can already see what the economic crisis has yielded around the world. Nigeria and all its neighbors are in their current fragile status in part as a result of the economic crisis.<sup>78</sup> If a state, like Nigeria, that supplies vital resources to America fails, it will affect Americans. Climate change will exacerbate economic issues and other aspects of failing and failed states. Globalization has connected much of the planet economically through sovereign debt, the sale and purchase of exports, imports, and oil.<sup>79</sup> As such, much of the West, Asia and the Middle East are already co-dependant on each other's stability and security.<sup>80</sup> With the increased flow of oil from Nigeria to the U.S., Africa can be added to the list.

Crises that may result from climate change will expend our resources as we respond around the globe. It has the potential to exhaust and overwhelm the organization the U.S. uses to respond. As such, it is critical to be forward thinking. The conflict we are currently fighting has no foreseeable end date. The potential that global climate change has for adding new theaters to the U.S. struggle against extremist organizations requires that we begin efforts to mitigate the threat now through partnering and proactive security and stability operations in at-risk countries.

Climate change is occurring. Impact from region to region and the pace can be debated, but the threat demands planning and preparation now. The argument over whether or not humans have contributed to the pace of climate change is almost immaterial to the argument posed in this paper. The bottom line is well summed up by the Center For Naval Analysis' Military Advisory Board on climate change, –failing to act because the warning isn't precise enough is unacceptable.”<sup>81</sup>

## RECOMMENDATIONS

*You must know something about strategy and tactics and logistics, but also economics and politics and diplomacy and history. You must know everything you can know about military power, and you must understand the limits of military power. You must understand that few of the important problems of our time have, in the final analysis, been solved by military power alone.*

*- John F. Kennedy <sup>82</sup>*

Planning and preparation to head off the destabilizing affects of climate change in Nigeria must take place now. AFRICOM should build a strong multilateral SSTR plan that will engage along all LOOs simultaneously. This effort needs to be DOS led from the U.S. side and African led overall. AFRICOM should emphasize continued integration of USG agencies within the command and build a strong JIACG to ensure timely, sustained and unified action. Partnering with struggling states via cooperative security plans is key to the U.S. military's effort to build adaptive capacity in Nigeria and elsewhere. The U.S. military effort needs to be discrete and limited so as to emphasize the Nigerian government as the security provider and build its legitimacy with the people. This will foster security and stability. The focus is twofold. The people of Nigeria need progress, access, options and alternatives. The Nigerian government needs increased capacity and skill in governance to respond to the changing environment and the needs of its people more effectively. The U.S. needs to engage the African Union and use the military's capacity to facilitate the efforts of NGOs and IGOs. The result must be that U.S. efforts enable a more adaptive Nigeria, ultimately capable of helping itself, leaving U.S. forces free to respond to those crises that failed states cannot address themselves.

## CONCLUSION

Multiple data sets support the existence of global climate change. The full measure of its affects and speed of advance is still being debated, but preliminary indications show that severe impacts are possible. In addition to the environment, it will affect the global economy, food and water supplies, territorial claims, and physical coastlines in the form of sea level rise, threatening the very existence of some islands. The lives of vast numbers of people may be threatened due to famine and disease. These effects may serve to weaken already fragile states causing them to fail, and failed states to descend further into chaos, fostering extremism and terrorism along the way. Climate change has the potential to dramatically increase the number of humanitarian assistance and contingency operations that the U.S. military may respond to around the world. This may in turn invite extremist aggression. The socio-economic factors of fragile states, combined with the destabilizing affects of climate change, constitute a threat to the national security of the United States. The time to respond is now. To ignore the obvious implications and current evidence of global climate change is to invite disaster. In doing so the U.S. would sacrifice what Professor Milan Vego calls —one of the most precious commodities in the conduct of warfare,” time.<sup>83</sup>

## NOTES

1. Gordon R. Sullivan, "On Risk," in *National Security and the Threat of Climate Change*, CNA Military Advisory Board Report (Alexandria, VA: The CNA Corporation, 2007), 10.
2. Sun Tzu, *The Art of War*, trans. Samuel B. Griffith (London, Oxford, New York: Oxford University Press, 1971), 64.
3. U.S. Department of Defense, *National Defense Strategy* (Washington, DC: Office of the Secretary of Defense, June 2008), 2-3, 9, <http://www.defenselink.mil/news/2008%20National%20Defense%20Strategy.pdf> (accessed 16 Oct 09).
4. M. Boko, et al., "Africa," in *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, eds. M.L. Parry, et al., (Cambridge UK: Cambridge University Press, 2007), 435, 454 <http://www.ipcc.ch/> (accessed 25 Sep 09).
5. U.S. President, *The National Security Strategy of the United States of America*, (Washington, DC: The Whitehouse, March 2006), 37, <http://www.strategicstudiesinstitute.army.mil/pdffiles/nss.pdf> (accessed 16 Oct 09).
6. Spencer R. Weart, "A National Security Issue? How People Tried to Frame Global Warming," in *Global Climate Change: National Security Implications*, ed. Carolyn Pumphery, (Carlisle, PA: Strategic Studies Institute U.S. Army War College, 2008), 23-26.
7. Intergovernmental Panel on Climate Change, "Summary for Policymakers," in *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, eds. S. Solomon, et al., (Cambridge, UK and New York, NY: Cambridge University Press, 2007), 5, 7, <http://www.ipcc.ch/> (accessed 25 Sep 09).
8. Carolyn Pumphery, ed., *Global Climate Change: National Security Implications*, (Carlisle, PA: Strategic Studies Institute U.S. Army War College, 2008), 2-3.
9. IPCC, 2007, "Summary for Policymakers," in *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, 5, 10.
10. Richard A. Matthew, "A Threat Assessment," in *Global Climate Change: National Security Implications*, 55.
11. Paul J. Smith, "Climate Change, Weak States and the 'War on Terrorism' in South and Southeast Asia," *Contemporary Southeast Asia* 29, 2, (Aug 2007): 265, 273, <http://proquest.umi.com/> (accessed 17 Sep 09).
12. Center for Naval Analysis, *National Security and the Threat of Climate Change*, CNA Military Advisory Board Report (Alexandria, VA: The CNA Corporation, 2007), 18, 20, 22, <http://www.SecurityAndClimate.cna.org> (accessed 29 Aug 2009).
13. Andrew Price-Smith, "On Climate Change an Infectious Disease: Implications for Political Destabilization and Conflict," in *Global Climate Change: National Security Implications*, 87-89.
14. Kent Hughs Butts, "Climate Change: Complicating the Struggle against Extremist ideology" in *Global Climate Change: National Security Implications*, 138.
15. Lauren Ploch, *Africa Command: U.S. Strategic Interests and the Role of the U.S. Military in Africa* (Congressional Research Service, 7-5700 [www.crs.gov](http://www.crs.gov) RL34003, July 28, 2009), 16, <http://www.fas.org/sgp/crs/natsec/RL34003.pdf> (accessed 22 Sep 09).
16. Center for Naval Analysis, *National Security and the Threat of Climate Change*, 18.
17. Michael T. Klare, "Global Warming Battlefields: How Climate Change Threatens Security," *Current History* 106, 703 (November 2007): 357, <http://proquest.umi.com/> (accessed 29 Aug 2009).
18. David D. Zhang, Peter Brecke, Harry F. Lee, Yuan-Qing He, Jane Zhang, "Global Climate Change, War, and Population Decline in Recent Human History," *Proceedings of the National Academy of Sciences* 104, no. 49, (4 Dec 2007): 19215-19218, <http://www.pnas.org/cgi/doi/10.1073/pnas.0703073104>, (accessed 4 Sep 2009).
19. Ibid., 19219.
20. Michael T. Klare, "Global Warming Battlefields: How Climate Change Threatens Security," 357.
21. Paul J. Smith, "Climate Change, Weak States and the 'War on Terrorism' in South and Southeast Asia", 264-266.
22. Center for Naval Analysis, *National Security and the Threat of Climate Change*, 18.

- 
23. Center for Naval Analysis, *National Security and the Threat of Climate Change*, 13; and M. Boko, et al., –Africa,” in *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, 435.
24. Center for Naval Analysis, *National Security and the Threat of Climate Change*, 15.
25. U.S. President, *The National Security Strategy of the United States of America*, 37.
26. U.S. Government Accountability Office, *Defense Management: Actions Needed to Address Stakeholder Concerns, Improve Interagency Collaboration, and Determine Full Costs Associated with the U.S. Africa Command* (Washington, DC: GAO, 2009), 8-9, <http://www.gao.gov/products/GAO-09-181> (accessed 01 Oct 09).
27. M. Boko, et al., –Africa,” in *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, 454.
28. Thomas P. Barnett, *The Pentagon’s New World Map* (New York, NY: G.P. Putnam’s Sons, 2004), 49.
29. William E. Ward and Thomas P. Galvin, –U.S. Africa Command and the Principle of Active Security,” *Joint Force Quarterly* 51, (4<sup>th</sup> Qtr 2008): 66.
30. Ibid., 62.
31. U.S. Government Accountability Office, *Defense Management: Actions Needed to Address Stakeholder Concerns, Improve Interagency Collaboration, and Determine Full Costs Associated with the U.S. Africa Command*, 8-9.
32. Foreign Policy and The Fund for Peace, –The Failed States Index,” *Foreign Policy*, 173, (July/August 2009): 82-83.
33. Lauren Ploch. *Africa Command: U.S. Strategic Interests and the Role of the U.S. Military in Africa*, 13.
34. Central Intelligence Agency, *World Fact book*, <https://www.cia.gov/library/publications/the-world-factbook/> (accessed 28 Sep 09).
35. Ibid.
36. Ibid.
37. J. Shola Omotola, –Dissent and State Excess in the Niger Delta, Nigeria,” *Studies in Conflict and Terrorism* 32, no. 2, (01 February 2009): 137, <http://search.ebscohost.com> or <http://dx.doi.org/10.1080/10576100802564014> (accessed 29 Sep 09).
38. Ibid., 133-137.
39. Ibid.
40. Information on the socio-economic, conflict and environmental issues faced by Benin, Cameroon, Chad and Niger can be found at: Central Intelligence Agency, *World Fact book*, <https://www.cia.gov/library/publications/the-world-factbook/> (accessed 10 Oct 09). See also Foreign Policy and The Fund for Peace, –The Failed States Index,” *Foreign Policy*, 179, (July/August 2009): 81-84.
41. Center for Naval Analysis, *National Security and the Threat of Climate Change*, 18; and Central Intelligence Agency, *World Fact book*, <https://www.cia.gov/library/publications/the-world-factbook/> (accessed 10 Oct 09).
42. *A Cooperative Strategy for 21<sup>st</sup> Century Seapower* (Oct 2007), <http://www.navy.mil/maritime/MaritimeStrategy.pdf> (accessed 22 Aug 2009).
43. William E. Ward and Thomas P. Galvin, –U.S. Africa Command and the Principle of Active Security,” 66.
44. Ibid., 65.
45. U.S. Africa Command Staff, *United States Africa Command 2009 Posture Statement* (Stuttgart, Germany: Kelley Barracks, March 2009), 23-26, [www.africom.mil](http://www.africom.mil), (accessed 22 Sep 09).
46. U.S. Government Accountability Office, *Defense Management: Actions Needed to Address Stakeholder Concerns, Improve Interagency Collaboration, and Determine Full Costs Associated with the U.S. Africa Command*, 13, 17-18.
47. Ibid., 13-14.
48. Ibid., 14.
49. William E. Ward and Thomas P. Galvin, –U.S. Africa Command and the Principle of Active Security,” 62.
50. Ibid.



- 
51. For details on El Salvador see John D. Waghelstein, "Military-To-Military Contacts: Personal Observations – The El Salvador Case," Unpublished Draft Fall 2002, (Newport RI: U.S. Naval War College, EL 507A Employment of Special Operations Forces: A Case Study Approach, Selected Readings, 2008-2009). For details on the Philippines see Cherilyn A. Walley, "Civil Affairs: A Weapon of Peace on Basilan Island," *Special Warfare* 17, no. 1 (September 2004) 30-35, <http://proquest.umi.com/> (accessed 19 Mar 09).
52. Ibid.
53. Center for Naval Analysis, *National Security and the Threat of Climate Change*, 6.
54. U.S. Government Accountability Office, *Defense Management: Actions Needed to Address Stakeholder Concerns, Improve Interagency Collaboration, and Determine Full Costs Associated with the U.S. Africa Command*, 18.
55. Bert B. Tussing, "The Role of the Military in Civil Support" in *Global Climate Change: National Security Implications*, 361.
56. For more info on DOS regional environmental hubs visit <http://www.state.gov/g/oes/hub/> (accessed 12 Oct 09); and Bert B. Tussing, "The Role of the Military in Civil Support" in *Global Climate Change: National Security Implications*, 361.
57. Theo Neethling, "Shaping the African Standby Force: Developments, Challenges, and Prospects," *Military Review* 85, no.3, (May/June 2005): 68-70.
58. Ibid.
59. For a full description visit [http://www.africa-union.org/root/au/organs/Specialized\\_Technical\\_Committee\\_en.htm](http://www.africa-union.org/root/au/organs/Specialized_Technical_Committee_en.htm) (accessed 12 Oct 09).
60. Theo Neethling, "Shaping the African Standby Force: Developments, Challenges, and Prospects," 70.
61. For information on NATO's Committee on the Challenges of Modern Society see: North Atlantic Treaty Organization, *NATO Today: Building Better Security and Stability for All*, (Brussels, Belgium: NATO Office of Information and Press, 2002), 33; and for the NATO SPS go to: North Atlantic Treaty Organization, "Science for Peace and Security Program (SPS) North Atlantic Treaty Organisation," <http://www.nato.int/science/index.html> (accessed 18 Oct 09). For information on the UN Environment Program in Africa go to: United Nations, "United Nations Environment Programme, Regional Office for Africa," <http://www.unep.org/roa/> (accessed 18 Oct 09); and for information on the UNOCHA go to: United Nations, "United Nations Office for the Coordination of Humanitarian Affairs," <http://ochaonline.un.org/> (accessed 18 Oct 09).
62. Foreign Policy and The Fund for Peace, "The Failed States Index," 84.
63. Peter W. Chiarelli and Patrick R. Michaelis, "Winning the Peace: The Requirement for Full-Spectrum Operations," *Military Review* (July/August 2005): 4-7.
64. U.S. Joint Forces Command, *Military Support to Stabilization, Security, Transition, and Reconstruction Operations Joint Operating Concept* (Suffolk, VA: U.S. Joint Forces Command/J-9, 2006), 5-7, available at <https://www.dtic.mil/futurejointwarfare/> (accessed 26 Sep 09).
65. Ibid., v-viii.
66. John R. Boyd, *The Essence of Winning and Losing*, January 1996, slides, [http://www.chetrichards.com/modern\\_business\\_strategy/boyd/essence/eowl\\_frameset.htm](http://www.chetrichards.com/modern_business_strategy/boyd/essence/eowl_frameset.htm) (accessed 12 Oct 09); and Thomas P. Barnett, *The Pentagon's New World Map* (New York, NY: G.P. Putnam's Sons, 2004), 49.
67. John R. Boyd, *The Essence of Winning and Losing*, January 1996, slides, [http://www.chetrichards.com/modern\\_business\\_strategy/boyd/essence/eowl\\_frameset.htm](http://www.chetrichards.com/modern_business_strategy/boyd/essence/eowl_frameset.htm) (accessed 12 Oct 09).
68. For information concerning Operation SEA ANGEL see: Paul A. McCarthy, *Operation Sea Angel: A Case Study*, RAND Report, (Santa Monica, CA: RAND, 1994), [http://www.rand.org/pubs/monograph\\_reports/2007/MR374.pdf](http://www.rand.org/pubs/monograph_reports/2007/MR374.pdf) (accessed 16 Sep 09); for Operation UNIFIED ASSISTANCE see: U.S. Naval War College, Joint Military Operations Department, "Operation Unified Assistance," (Newport, RI: Naval War College, 2007) <https://portal.nwc.navy.mil/academics/jmo/default.aspx> (accessed 9 Oct 09); for Hurricane Katrina see: U.S. Senate Committee on Homeland Security and Governmental Affairs, *Hurricane Katrina: A Nation Still Unprepared*, Special Report 109-322 (Washington, DC: U.S. Government Printing Office, 2006), 1-19, 467-549, <http://www.gpoaccess.gov/serialset/creports/katrinanation.html> (accessed 9 Oct 09).

- 
69. U.S. Office of the Chairman of the Joint Chiefs of Staff, *Joint Publication 3-08: Interagency, Intergovernmental Organization, and Nongovernmental Organization Coordination During Joint Operations Vol I*, (Washington, DC: CJCS, 17 March 2006), II-14, II-16, II-21, [http://www.js.pentagon.mil/doctrine/jel/new\\_pubs/jp3\\_08v1.pdf](http://www.js.pentagon.mil/doctrine/jel/new_pubs/jp3_08v1.pdf) (accessed 12 Oct 09); and U.S. Joint Forces Command, "USJFCOM Fact Sheet: Joint Interagency Coordination Group," [http://www.jfcom.mil/about/fact\\_jiacg.htm](http://www.jfcom.mil/about/fact_jiacg.htm) (accessed 12 Oct 09).
70. Ibid.
71. U.S. Office of the Chairman of the Joint Chiefs of Staff, *Joint Publication 3-08: Interagency, Intergovernmental Organization, and Nongovernmental Organization Coordination During Joint Operations Vol I*, III-17–II-21.
72. Thomas P. Barnett, *The Pentagon's New World Map*, 137.
73. William E. Ward and Thomas P. Galvin, "U.S. Africa Command and the Principle of Active Security," 66.
74. Thomas P. Barnett, *The Pentagon's New World Map*, 137.
75. Ibid., 369.
76. Anonymous, "Review of the Month: The Pentagon and Climate Change," *Monthly Review* 56, no. 1 (May 2004): 3, <http://proquest.umi.com/> (accessed 29 Aug 2009).
77. M. Boko, et al., "Africa," in *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, 436; and Paul J. Smith, "Climate Change, Weak States and the 'War on Terrorism' in South and Southeast Asia," 273-274.
78. Foreign Policy and The Fund for Peace, "The Failed States Index," 81-82.
79. Thomas P. Barnett, *The Pentagon's New World Map*, 222.
80. Ibid.
81. Center for Naval Analysis, *National Security and the Threat of Climate Change*, 7.
82. President John F. Kennedy, "Remarks at Annapolis to the Graduating Class of the United States Naval Academy, June 7, 1961," [www.jfklink.com/speeches/jfk/publicpapers/1961/jfk232\\_61.html](http://www.jfklink.com/speeches/jfk/publicpapers/1961/jfk232_61.html) (accessed 12 Oct 09).
83. Milan N. Vego, *Joint Operational Warfare: Theory and Practice*, CD-ROM, (Newport, RI: U.S. Naval War College, 2009), III-19.

---

## SELECTED BIBLIOGRAPHY

- A Cooperative Strategy for 21<sup>st</sup> Century Seapower*. Oct 2007.  
<http://www.navy.mil/maritime/MaritimeStrategy.pdf> (accessed 22 Aug 2009).
- Anonymous. –Review of the Month: The Pentagon and Climate Change.” *Monthly Review* 56, no. 1 (May 2004): 1-13. <http://proquest.umi.com/> (accessed 29 Aug 2009).
- Barnett, Thomas P. *The Pentagon's New World Map*. New York, NY: G.P. Putnam's Sons, 2004.
- Boko, M., I. Niang, A. Nyong, C. Vogel, A. Githeko, M. Medany, B. Osman-Elasha, R. Tabo and P. Yanda, –Africa.” In *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson. Cambridge, UK: Cambridge University Press, 2007, 433-467.  
[http://www.ipcc.ch/publications\\_and\\_data/publications\\_ipcc\\_fourth\\_assessment\\_report\\_wg2\\_report\\_impacts\\_adaptation\\_and\\_vulnerability.htm](http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg2_report_impacts_adaptation_and_vulnerability.htm) (accessed 25 Sep 09).
- Boyd, John R. *The Essence of Winning and Losing*. January 1996. Slides.  
[http://www.chetrichards.com/modern\\_business\\_strategy/boyd/essence/eow1\\_frameset.htm](http://www.chetrichards.com/modern_business_strategy/boyd/essence/eow1_frameset.htm) (accessed 12 Oct 09).
- Center For Naval Analysis. *National Security and the Threat of Climate Change*. CNA Military Advisory Board Report. Alexandria, VA: CNA Corporation, 2007. <http://www.SecurityAndClimate.cna.org> (accessed 29 Aug 2009).
- Central Intelligence Agency. *World Fact Book*.  
<https://www.cia.gov/library/publications/the-world-factbook/> (accessed 28 Sep 09).
- Chiarelli, Peter W. and Michaelis, Patrick R. –Winning the Peace: The Requirement for Full-Spectrum Operations.” *Military Review*, July-August 2005, 4-17.
- Dupont, Alan. –The Strategic Implications of Climate Change.” *Survival* 50, no. 3 (June-July 2005): 29-54. <http://proquest.umi.com/> (accessed 29 Aug 2009).
- Foreign Policy and The Fund for Peace. –The Failed States Index.” *Foreign Policy*, 179, (July/August 2009): 80-93.

- 
- Harrison, Stephan. "Climate Change, Future Conflict and the Role of Climate Science." *RUSI Journal* 150, iss. 6 (Dec 2005): 18-23.  
<http://proquest.umi.com/> (accessed 29 Aug 2009).
- Intergovernmental Panel on Climate Change. "Summary for Policy Makers." In *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller. Cambridge UK and New York, N: Cambridge University Press, 2007, 1-18.  
[http://www.ipcc.ch/publications\\_and\\_data/publications\\_ipcc\\_fourth\\_assessment\\_report\\_wg1\\_report\\_the\\_physical\\_science\\_basis.htm](http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg1_report_the_physical_science_basis.htm) (accessed 25 Sep 09).
- Kennedy, John F. "Remarks at Annapolis to the Graduating Class of the United States Naval Academy, June 7, 1961." [www.jfklink.com/speeches/jfk/publicpapers/1961/jfk232\\_61.html](http://www.jfklink.com/speeches/jfk/publicpapers/1961/jfk232_61.html) (accessed 12 Oct 09).
- Klare, Michael T. "Global Warming Battlefields: How Climate Change Threatens Security." *Current History* 106, 703 (November 2007): 355-361.  
<http://proquest.umi.com/> (accessed 29 Aug 2009).
- Matthew, Richard A. "A Threat Assessment." in *Global Climate Change: National Security Implications*, edited by Carolyn Pumphrey. Carlisle, PA: Strategic Studies Institute U.S. Army War College, 2008, 55-68.
- McCarthy, Paul A. *Operation Sea Angel: A Case Study*. RAND Report. Santa Monica, CA: RAND, 1994.  
[http://www.rand.org/pubs/monograph\\_reports/2007/MR374.pdf](http://www.rand.org/pubs/monograph_reports/2007/MR374.pdf) (accessed 16 Sep 09).
- National Intelligence Council. *Global Trends 2025: A Transformed World*. Nov 2008.  
[www.dni.gov/nic/NIC\\_2025\\_project.html](http://www.dni.gov/nic/NIC_2025_project.html) (accessed 22 Sep 09).
- Neethling, Theo. "Shaping the African Standby Force: Developments, Challenges, and Prospects." *Military Review* 85, no.3 (May/June 2005): 68-71.
- North Atlantic Treaty Organization. *NATO Today: Building Better Security and Stability for All*. Brussels, Belgium: NATO Office of Information and Press, 2002.
- . "Science for Peace and Security Program (SPS) North Atlantic Treaty Organisation." <http://www.nato.int/science/index.html> (accessed 18 Oct 09).

- 
- Omotola, J. Shola. "Dissent and State Excess in the Niger Delta, Nigeria." *Studies in Conflict and Terrorism* 32, no. 2 (01 February 2009): 129-145.  
<http://search.ebscohost.com> or  
<http://dx.doi.org/10.1080/10576100802564014> (accessed 29 Sep 09).
- Pham, J. Peter. "Getting AFRICOM Right." *World Defense Review*, 15 Feb 2007  
<http://worlddefensereview.com/pham021507.shtml> (accessed 25 Sep 09)
- Ploch, Lauren. *Africa Command: U.S. Strategic Interests and the Role of the U.S. Military in Africa*. Congressional Research Service Report for Congress RL34003. CRS, 28 July 2009.  
<http://www.fas.org/sgp/crs/natsec/RL34003.pdf> (accessed 22 Sep 09).
- Price-Smith, Andrew. "On Climate Change an Infectious Disease: Implications for Political Destabilization and Conflict." In *Global Climate Change: National Security Implications*, edited by Carolyn Pumphrey. Carlisle, PA: Strategic Studies Institute U.S. Army War College, 2008, 86-98.
- Pumphrey, Carolyn, ed. *Global Climate Change: National Security Implications*. Carlisle, PA: Strategic Studies Institute U.S. Army War College, 2008.
- Smith, Paul J. "Climate Change, Weak States and the 'War on Terrorism' in South and Southeast Asia." *Contemporary Southeast Asia* 29, no. 2 (Aug 2002): 264-285. <http://proquest.umi.com/> (accessed 30 Sep 09).
- Sullivan, Gordon R. "On Risk." In *National Security and the Threat of Climate Change*. CNA Military Advisory Board Report. Alexandria, VA: The CNA Corporation, 2007, 10-11. <http://www.SecurityAndClimate.cna.org> (accessed 29 Aug 2009).
- Tussing, Bert B. "The Role of the Military in Civil Support" In *Global Climate Change: National Security Implications*, edited by Carolyn Pumphrey. Carlisle, PA: Strategic Studies Institute U.S. Army War College, 2008, 347-365.
- United Nations. "United Nations Environment Programme, Regional Office for Africa." <http://www.unep.org/roa/> (accessed 18 Oct 09).
- . "United Nations Office for the Coordination of Humanitarian Affairs." <http://ochaonline.un.org/> (accessed 18 Oct 09).
- U.S. Africa Command Staff. *United States Africa Command 2009 Posture Statement*. Stuttgart, Germany: Kelley Barracks, March 2009. [www.africom.mil](http://www.africom.mil) (accessed 22 Sep 09).

- 
- U.S. Office of the Chairman of the Joint Chiefs of Staff. *Joint Publication 3-08: Interagency, Intergovernmental Organization, and Nongovernmental Organization Coordination During Joint Operations Vol I*. Washington, DC: CJCS, 17 March 2006.  
[http://www.js.pentagon.mil/doctrine/jel/new\\_pubs/jp3\\_08v1.pdf](http://www.js.pentagon.mil/doctrine/jel/new_pubs/jp3_08v1.pdf) (accessed 12 Oct 09).
- U.S. Government Accountability Office. *Defense Management: Actions Needed to Address Stakeholder Concerns, Improve Interagency Collaboration, and Determine Full Costs Associated with the U.S. Africa Command*. Report GAO-09-181. Washington, DC: GAO, Feb 2009.  
<http://www.gao.gov/products/GAO-09-181> (accessed 01 Oct 09).
- U.S. Joint Forces Command. *The Joint Operating Environment 2008: Challenges and Implications for the Future Joint Force*. Suffolk, VA: U.S. Joint Forces Command, Nov 2008. <https://us.jfcom.mil/sites/j5/j59/default.aspx> (accessed 22 Sep 09).
- . *Military Support to Stabilization, Security, Transition, and Reconstruction Operations Joint Operating Concept*. Suffolk, VA: U.S. Joint Forces Command/J-9, 2006, 5-7, available at <https://www.dtic.mil/futurejointwarfare/> (accessed 26 Sep 09).
- . “USJFCOM Fact Sheet: Joint Interagency Coordination Group,” [http://www.jfcom.mil/about/fact\\_jiacg.htm](http://www.jfcom.mil/about/fact_jiacg.htm) (accessed 12 Oct 09).
- U.S. Naval War College, Joint Military Operations Department. “Operation Unified Assistance.” Newport, RI: Naval War College, 2007.  
<https://portal.nwc.navy.mil/academics/jmo/default.aspx> (accessed 9 Oct 09)
- U.S. President. *The National Security Strategy of the United States of America*. Washington, DC: The Whitehouse, March 2006.  
<http://www.strategicstudiesinstitute.army.mil/pdf/files/nss.pdf> (accessed 16 Oct 09).
- U.S. Senate Committee on Homeland Security and Governmental Affairs. *Hurricane Katrina: A Nation Still Unprepared*. Special Report 109-322. Washington, DC: U.S. Government Printing Office, 2006. 1-19, 467-549,  
<http://www.gpoaccess.gov/serialset/creports/katrinanation.html> (accessed 9 Oct 09).
- Vego, Milan N. *Joint Operational Warfare: Theory and Practice*. CD-ROM. Newport RI: U.S. Naval War College, 2009.

- 
- Waghelstein, John D. —Military-To-Military Contacts: Personal Observations – The El Salvador Case.” Unpublished Draft Fall 2002, Newport, RI: U.S. Naval War College, EL 507A Employment of Special Operations Forces: A Case Study Approach, Selected Readings, 2008-2009.
- Walley, Cherilyn A. —Civil Affairs: A Weapon of Peace on Basilan Island.” *Special Warfare* 17, no. 1 (September 2004): 30-35. <http://proquest.umi.com/> (accessed 19 Mar 09).
- Ward, William E. and Galvin, Thomas P. —US. Africa Command and the Principle of Active Security.” *Joint Force Quarterly*, iss. 51 (4<sup>th</sup> Qtr 2008): 61-66.
- Weart, Spencer R. —A National Security Issue? How People Tried to Frame Global Warming.” In *Global Climate Change: National Security Implications*, edited by Carolyn Pumphery. Carlisle, PA: Strategic Studies Institute U.S. Army War College, 2008, 23-44.
- Zhang, David D., Brecke, Peter, Lee, Harry F., He, Yuan-Qing, Zhang, Jane. —Global Climate Change, War, and Population Decline in Recent Hyman History.” *Proceedings of the National Academy of Sciences* 104, no. 49 (4 Dec 2007): 19214-19219. <http://www.pnas.org/cgi/doi/10.1073/pnas.0703073104> (accessed 4 Sep 2009).